



Atty. Dkt. No. 086142-0629

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE  
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES**

Applicant: Tomotoshi SENOH et al.  
Title: SEAT WEIGHT MEASURING DEVICE  
Appl. No.: 10/822,706  
Filing Date: 4/13/2004  
Examiner: Sean Phillip KAYES  
Art Unit: 2833  
Confirmation Number: 2928

**BRIEF ON APPEAL**

Mail Stop Appeal Brief - Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

Under the provisions of 37 C.F.R. § 41.37, this Appeal Brief is being filed together with a credit card payment form in the amount of \$510.00 covering the 37 C.F.R. 41.20(b)(2) appeal fee. If this fee is deemed to be insufficient, authorization is hereby given to charge any deficiency (or credit any balance) to the undersigned deposit account 19-0741.

**REAL PARTY IN INTEREST**

The real party in interest is Takata Corporation of Japan.

**RELATED APPEALS AND INTERFERENCES**

There are no related appeals or interferences.

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### **STATUS OF CLAIMS**

Claims 1-13 have been twice rejected, and all of which are the subject of this appeal. Claims 1 and 7 are the independent claims.

### **STATUS OF AMENDMENTS**

No further amendments have been made in response to the Final Rejection dated May 25, 2007.

### **SUMMARY OF CLAIMED SUBJECT MATTER**

The present invention relates to a device for measuring a weight of a seat, including a weight of an occupant sitting on the seat. (Paragraph 0001, lines 1-3 of the original specification.) The following is an explanation of the subject matter defined in each of the claims involved in the appeal. References are made to the specification by page and line number and to the drawings by reference characters for each of the claim features. However, it is noted that these references to the specification and drawings provide only examples of the present invention, and the scope of the claims is not limited to the text and figures provided in these references.

#### *(1) Claim 1*

The invention of claim 1 relates to a device for measuring a weight of a seat (reference numeral 9 of Figs. 1(A) and 1(B) and paragraph 0040, line 1 of the original specification), including a weight of an occupant sitting on the seat (paragraph 0001, lines 1-3 of the original specification), the device comprising:

a resilient member (reference numeral 23 of Figs. 1(A), 1(B), 2(A), 2(B), 3(A), and 3(B) and paragraph 0042, lines 4-6 of the original specification) supported by at least one support point (reference numeral 31 of Figs. 1(A), 1(B), 2(A), 2(B), 3(A), and 3(B) and paragraph 0040, lines 1-3 of the original specification); and

a load sensor (paragraph 0025, lines 5-8 and paragraph 0026, lines 5-8 of the original specification) supported by a sensor plate (reference numeral 51 of Figs. 3(A) and 3(B) and paragraph 0047, lines 7-10 of the original specification) and a sensor support (reference numeral 41b, 42b of Figs. 1(A) and 1(B) and paragraph 0040, lines 3-4 of the original

specification) and in communication with the resilient member (reference numerals 23, 41b, and 42b of Figs. 1(A) and 1(B) of the original specification) and positioned to receive the weight of the seat (paragraph 0040, lines 3-7 of the original specification), wherein the sensor support is formed on an underside of the sensor plate (reference numerals 51, 41b, and 42b of Figs. 3(A) and 3(B));

wherein the device is configured so that the weight of the seat is applied between the at least one support point and the sensor support (paragraph 0040, lines 3-7 of the original specification).

(2) Claim 2

The invention of claim 2 provides that the resilient member is a single acting part (reference numerals 23 and 23j of Figs. 3(A) and 3(B) and paragraph 0047, lines 7-10 of the original specification).

(3) Claim 3

The invention of claim 3 provides that the resilient member has two acting parts (reference numerals 23 and 23j of Figs. 2(A) and 2(B) and paragraph 0047, lines 1-4 of the original specification).

(4) Claim 4

The invention of claim 4 provides that the device further comprising a pin bracket adapted to be in communication with the seat and the resilient member (reference numeral 25 of Figs. 1(A), 1(B), 2(A), 2(B), 3(A), and 3(B) and paragraph 0048, lines 5-7 of the original specification).

(5) Claim 5

The invention of claim 5 provides that the pin bracket is rotatably supported by a base pin (reference numeral 31 of Figs. 1(A), 1(B), 2(A), 2(B), 3(A), and 3(B) and paragraph 0049, lines 1-3 of the original specification).

(6) Claim 6

The invention of claim 6 provides that the pin bracket transmits the seat weight to a bracket pin (reference numeral 27 of Figs. 1(A), 1(B), 2(A), 2(B), 3(A), and 3(B) and paragraph 0049, lines 1-3 of the original specification).

(7) Claim 7

The invention of claim 7 relates to a device for measuring seat weight (reference numeral 9 of Figs. 1(A) and 1(B) and paragraph 0040, line 1 of the original specification) including a weight of an occupant sitting on a seat (paragraph 0001, lines 1-3 of the original specification), the device comprising:

a base (reference numeral 21 of Figs. 2(A), 2(B), 3(A), and 3(B) and paragraph 0048, lines 2-3 of the original specification) having two side plates (reference numerals 21a, 21a' of Figs. 2(A), 2(B), 3(A), and 3(B) and paragraph 0048, lines 2-3 of the original specification);

an arm rotatably supported by and interdisposed between the side plates of the base (reference numeral 23 of Figs. 2(A), 2(B), 3(A), and 3(B) and paragraph 0048, lines 2-3 of the original specification) via a base pin (reference numeral 31 of Figs. 2(A), 2(B), 3(A), and 3(B) and paragraph 0048, lines 2-3 of the original specification);

a pin bracket in communication with the arm (reference numeral 25 of Figs. 2(A), 2(B), 3(A), and 3(B) and paragraph 0048, lines 5-7 of the original specification) via a bracket pin (reference numeral 27 of Figs. 2(A), 2(B), 3(A), and 3(B) and paragraph 0048, lines 5-7 of the original specification) and further adapted to be in communication with the seat (paragraph 0048, lines 5-7 of the original specification), wherein the bracket pin is partially located between the two side plates of the base (reference numerals 27, 21a, and 21a' in Figs. 2(A) and 3(A) of the original specification); and

a load sensor in communication with the arm (paragraph 0025, lines 5-8 and paragraph 0026, lines 5-8 of the original specification); and

wherein the pin bracket is located between the base pin and the load sensor (reference numerals 25 and 31 of Figs. 1(A), 1(B), 2(A), 2(B), 3(A), and 3(B) of the original specification).

(8) Claim 8

The invention of claim 8 provides that the arm comprises a single acting part (reference numerals 23 and 23j of Figs. 3(A) and 3(B) and paragraph 0047, lines 7-10 of the original specification).

(9) Claim 9

The invention of claim 9 provides that the arm comprises two acting parts (reference numeral 23 of Figs. 2(A) and 2(B) and paragraph 0047, lines 1-4 of the original specification).

(10) Claim 10

The invention of claim 10 provides that the pin bracket is rotatably supported by the base pin (reference numerals 25 and 31 of Figs. 1(A), 1(B), 2(A), 2(B), 3(A), and 3(B) and paragraph 0049, lines 1-3 of the original specification).

(11) Claim 11

The invention of claim 11 provides that the pin bracket transmits the seat weight to the bracket pin (reference numeral 27 of Figs. 1(A), 1(B), 2(A), 2(B), 3(A), and 3(B) and paragraph 0049, lines 1-3 of the original specification).

(12) Claim 12

The invention of claim 12 provides that the arm comprises two arm side plates (reference numerals 23a and 23a' of Figs. 2(A), 2(B), 3(A), and 3(B) and paragraph 0048, lines 3-5 of the original specification).

(13) Claim 13

The invention of claim 13 provides that the device further comprises a spring leaf interdisposed between the two arm side plates (reference numeral 29 of Figs. 2(A) and 3(A) and paragraph 0020, lines 1-2 of the original specification).

**GROUND OF REJECTION TO BE REVIEWED ON APPEAL**

The following grounds of rejection that are set forth in the Office Action are to be reviewed on appeal:

(1) the rejection of pending claims 1-2, 4-8, and 10 under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 6,448,512 (hereinafter “Cooper”);

(2) the rejection of pending claims 12-13 under 35 U.S.C. § 103(a) as being unpatentable over Cooper in view of U.S. Patent No. 6,069,325 (hereinafter “Aoki ‘325”); and

(3) the rejection of pending claims 3 and 9 under 35 U.S.C. § 103(a) as being unpatentable over Cooper in view of U.S. Patent No. 6,323,444 (hereinafter “Aoki ‘444”).

**ARGUMENT**

**I. Cooper does not teach or suggest all the features of claims 7, 8, 10 and 11**

The rejection of claim 7 should be withdrawn because Cooper fails to disclose, teach, or suggest all the features of claim 7. Claim 7 recites a base with two side plates, an arm rotatably supported by the side plates of the base via a base pin, a pin bracket, and a load sensor. In the Final Office Action, it is asserted that the floor pan 16 of Cooper is the base, the support mounts 60 are the side plates, the lever 70 is the arm, the pin 66 is the base pin, the bushing 92 is the pin bracket, and the sensor 80 is the load sensor. (Paragraph 8 of the Final Office Action.) This rejection is improper for at least the following reasons.

First, claim 7 requires that the arm be rotatably supported by the two side plates of the base. Cooper does not teach or suggest this feature because the lever 70 of Cooper is not supported by both mounts 60 by a pin but is merely supported by one mount via the pin 66. Accordingly, the lever 70 of Cooper cannot be considered the arm of claim 7 because the lever 70 is not rotatably supported by two side plates of the base via a base pin. No other element of Cooper can be interpreted to be the arm of claim 7. Thus, Cooper does not teach or suggest the arm of claim 7, and the rejection should be withdrawn because Cooper does not teach or suggest all the features of claim 7.

Second, claim 7 requires a pin bracket to be in communication with the arm via a bracket pin. Cooper does not teach or suggest this features. The bushing 92 of Cooper has been interpreted as the pin bracket of claim 7. (Paragraph 8 of the Final Office Action.) Such an interpretation is unreasonable, contrary to MPEP 2111 (see above). A bushing is known by one with ordinary skill in the art to be a removable cylindrical lining for an opening (as of a mechanical part) used to limit the size of the opening, resist abrasion, or serve as a guide. The bushing 92 of Cooper is consistent with this meaning as the bushing 92 engages the lever 70 and the second support pin 46 of the vehicle seat frame 42 for facilitating the relative rotation between the lever 70 and the seat frame 42 (i.e., resists abrasion for the rotation). (Column 2, lines 50-53 of Cooper.) In contrast, a pin bracket would be known in the art to mean a member or fixture that projects from a structure and is designed to support a load. In this case, the bushing 92 of Cooper simply does not project from a feature and support a load, but merely facilitates relative rotation between the lever 70 and the seat frame 40. Thus, the bushing 92 is not considered by one with ordinary skill in the art to be a pin bracket, and such an interpretation is unreasonable.

Furthermore, the bushing 92 of Cooper cannot be interpreted to be the pin bracket because claim 7 requires the pin bracket to be “in communication with the arm via a bracket pin.” It is asserted in the Final Office Action that the bushing 92 of Cooper is interpreted to be the pin bracket, the lever 70 of Cooper is interpreted to be the arm, and the support pin 46 of Cooper is interpreted to be the bracket pin. However, the bushing 92 of Cooper is not in communication with the lever 70 via the support pin 46, but the bushing 92 is in direct communication with the lever 70 of Cooper. (See Fig. 2 of Cooper.) Because the bushing 92 is not in communication with the lever 70 via the support pin 46, the bushing 92 cannot be interpreted to be the pin bracket of claim 7.

No other element of Cooper can be interpreted to be the pin bracket of claim 7. For example, the lever 70 of Cooper cannot be interpreted as the pin bracket because it is already interpreted to be the arm of claim 7, and it is improper to interpret the lever 70 as the arm and the pin bracket when these elements are different and distinct. Because Cooper does not teach or suggest the pin bracket of claim 7, Cooper does not teach or suggest all the features of claim 7, and the rejection should be withdrawn.

For at least these reasons, claim 7 is not anticipated by Cooper, and the rejection should be withdrawn. Reconsideration and withdrawal of the rejection of claim 7 are respectfully requested.

The rejection of claims 8 and 10-11 should be withdrawn because Cooper fails to disclose, teach, or suggest all the features of claim 7 and its dependent claims 8 and 10-11. Dependent claims 8 and 10-11 depend from claim 7, and are allowable therewith for at least the reasons set forth above without regard to the further patentable limitations contained therein. Reconsideration and withdrawal of the rejection of claims 8 and 10-11 are respectfully requested.

II. Cooper and/or Aoki '444 do not teach or suggest all the features of claim 9

The rejection of claim 9 should be withdrawn because any combination of Cooper and Aoki '444 fails to disclose, teach, or suggest all the features of claim 7 and its dependent claim 9. Claim 9 depends from and contains all the features of claim 7. Cooper does not teach or suggest an arm rotatably supported by the side plates of the base via a base pin or a pin bracket in communication with the arm via a bracket pin. Aoki '444 does not cure these deficiencies. Thus, any combination of Cooper and Aoki '444 does not teach or suggest all the features of claim 7 and its dependent claim 9, and the rejection should be withdrawn. Reconsideration and withdrawal of the rejection of claim 9 are respectfully requested.

III. Cooper and/or Aoki '325 do not teach or suggest all the features of claims 12 and 13, and there is no reason to combine the teachings of Cooper and Aoki '325

The rejection of claim 12 should be withdrawn because any combination of Cooper and Aoki '325 fails to disclose, teach, or suggest all the features of claim 7 and its dependent claim 12. Claim 12 depends from and contains all the features of claim 7. Cooper does not teach or suggest an arm rotatably supported by the side plates of the base via a base pin or a pin bracket in communication with the arm via a bracket pin. Aoki '325 does not cure these deficiencies. Thus, any combination of Cooper and Aoki '325 does not teach or suggest all the features of claim 7 and its dependent claim 12, and the rejection should be withdrawn.

Additionally, any rejection based on the combination of Cooper and Aoki '325 is improper because there is no reason to combine the teachings of Cooper and Aoki '325. The



Final Office Action asserts that Cooper does not teach an arm with side plates, Aoki '325 teaches such side plates, and it would have been obvious to provide the lever 70 of Cooper with the side plates of Aoki for the reduction of weight of the part and/or to provide an easy machine process for its production as taught by Aoki. (Paragraph 13 of the Final Office Action.) Adding the side walls of Aoki to the lever 30 of Cooper would include an additional manufacturing step of adding the side walls to the lever (making manufacturing harder) and increase the material of the lever 30 by the addition of the side walls (increasing the weight of the device). The proposed modification would then negate the alleged reason for adding the side walls, i.e., for easier manufacture and reduction of weight. Thus, one with ordinary skill in the art would not have a reason to add the side walls of Aoki because it would increase manufacturing costs and the weight of the device. In addition, the addition of sidewalls does not, in and of itself, provide a particular benefit to the device of Cooper. As the lever 70 of Cooper does not require the side walls to function, and the additional sidewalls does not provide a particular functional benefit. Because there is no reason to add the side walls to the lever 70 of Cooper, the proposed modification, and hence the rejection based on the modification, is improper, and should be withdrawn.

For at least these reasons, reconsideration and withdrawal of the rejection is respectfully requested.

The rejection of claim 13 should be withdrawn because any combination of Cooper and Aoki '325 fails to disclose, teach, or suggest all the features of claim 7 and its dependent claim 13. Claim 13 depends from and contains all the features of claim 7. Cooper does not teach or suggest an arm rotatably supported by the side plates of the base via a base pin or a pin bracket in communication with the arm via a bracket pin. Aoki '325 does not cure these deficiencies. Thus, any combination of Cooper and Aoki '325 does not teach or suggest all the features of claim 7 and its dependent claim 13, and the rejection should be withdrawn.

Additionally, any rejection based on the combination of Cooper and Aoki '325 is improper because there is no reason to combine the teachings of Cooper and Aoki '325. The Final Office Action asserts that Cooper does not teach a spring leaf, Aoki '325 teaches such a leaf spring, and it would have been obvious to provide a leaf spring for the biasing of the weight transmitting bracket toward a center position. (Paragraph 14 of the Final Office

Action.) However, the spring 95 of Cooper is already used to bias the lever 70 downward to maintain contact between the lever 70 and the elastomer body 45 to reduce rattle or other noise due to vibration of the lever 70. (Column 3, line 65 to column 4, line 6 of Cooper.) The proposed modification would make the spring 95 of Cooper ineffective, and cause a situation that is to be avoided, i.e., rattle or other vibration-induced noise. Thus, one with ordinary skill in the art would not have a reason to use the leaf spring of Aoki because Cooper teaches that the proposed use of the leaf spring (i.e., for biasing the bracket toward a center position) is to be avoided, and contact of the lever 70 with the elastomer body 45 is to be maintained. Because there is no reason to use the leaf spring of Aoki with the device of Cooper, the proposed modification, and hence the rejection based on the modification, is improper, and should be withdrawn.

For at least these reasons, reconsideration and withdrawal of the rejection is respectfully requested.

#### IV. Cooper does not teach or suggest all the features of claim 1, 2, 4, 5 and 6

The rejection of claim 1 should be withdrawn because Cooper fails to disclose, teach, or suggest all the features of claim 1. For example, claim 1 recites one support point, a load sensor, a sensor support, a resilient member, and a sensor plate. In the Final Office Action dated May 25, 2007 (hereinafter “the Final Office Action”), it is asserted that the pin 66 of Cooper is the one support point, the sensor 80 is the load sensor, and the elastomer body 45 is the sensor support. (Paragraph 3 of the Final Office Action.) It is further asserted that the lever 70 of Cooper is the resilient member and that either the lower surface 71 of the lever 70 and/or the part 78 of the lever 70 is the sensor plate. *Id.*

When interpreting any term in the claim, that interpretation should be reasonable. The MPEP states that “[d]uring patent examination, the pending claims must be ‘given their broadest reasonable interpretation consistent with the specification.’” (MPEP 2111.) Also, “[t]he broadest reasonable interpretation of the claims must also be consistent with the interpretation that those skilled in the art would reach.” *Id.*

In this case, the interpretation of the resilient member and the sensor plate is not reasonable because the lever 70 of Cooper has been interpreted to be two different and

distinct claim elements: the resilient member and the sensor plate. It is improper to use the same lever 70 in Cooper to satisfy two different elements. Thus, a rejection based on this interpretation is improper. When properly interpreted, Cooper does not teach or suggest a resilient member and a sensor plate even if the lever 70 of Cooper is interpreted to be either the resilient member or the sensor plate. If the lever 70 of Cooper is interpreted to be the resilient member, the sensor 80 of Cooper is located on the lever 70, which means there is no sensor plate supporting the sensor 80. (Column 3, lines 41-45 of Cooper.) If the lever 70 of Cooper is interpreted to be the sensor plate 80, there is no other element supported by a support point that can be considered to be the resilient member. Thus, Cooper does not teach or suggest a resilient member and a sensor plate.

Because Cooper does not teach or suggest a resilient member and a sensor plate that are two distinct and separate elements, claim 1 is not anticipated by Cooper, and the rejection should be withdrawn.

The rejection of claims 2 and 4 should be withdrawn because Cooper fails to disclose, teach, or suggest all the features of claim 1 and its dependent claims 2 and 4. Dependent claims 2 and 4 depend from claim 1, and are allowable therewith for at least the reasons set forth above without regard to the further patentable limitations contained therein. Reconsideration and withdrawal of the rejection of claims 2 and 4 are respectfully requested.

The rejection of claims 5-6 should be withdrawn because Cooper fails to disclose, teach, or suggest all the features of claims 5-6. Claims 5-6 require a pin bracket rotatably supported by a base pin along with the other features of claim 1 from which they depend. In the Final Office Action, it is asserted that the bushing 92 of Cooper is interpreted to be the pin bracket. (Paragraphs 6-7 of the Final Office Action.) This rejection is improper because such an interpretation is unreasonable, contrary to MPEP 2111 (see above).

A bushing is known by one with ordinary skill in the art to be a removable cylindrical lining for an opening (as of a mechanical part) used to limit the size of the opening, resist abrasion, or serve as a guide. The bushing 92 of Cooper is consistent with this meaning as the bushing 92 engages the lever 70 and the second support pin 46 of the vehicle seat frame 42 for facilitating the relative rotation between the lever 70 and the seat frame 42 (i.e., resists abrasion for the rotation). (Column 2, lines 50-53 of Cooper.) In contrast, a pin bracket

would be known in the art to mean a member or fixture that projects from a structure and is designed to support a load. In this case, the bushing 92 of Cooper simply does not project from a feature and support a load, but merely facilitates relative rotation between the lever 70 and the seat frame 40. Thus, the bushing 92 is not considered by one with ordinary skill in the art to be a pin bracket, and such an interpretation is unreasonable.

No other element of Cooper can be interpreted to be the pin bracket of claims 5-6. For example, the lever 70 of Cooper cannot be interpreted as the pin bracket because it is already interpreted to be the resilient member and the sensor plate of claims 5-6, and it is improper to interpret the lever 70 as the resilient member, the sensor plate, and the pin bracket when these elements are different and distinct. Because Cooper does not teach or suggest the pin bracket of claims 5-6, Cooper does not teach or suggest all the features of claims 5-6, and the rejection should be withdrawn. For at least these reasons, claims 5-6 is not anticipated by Cooper, and the rejection should be withdrawn.

V. Cooper and/or Aoki '444 do not teach or suggest all the features of claim 3

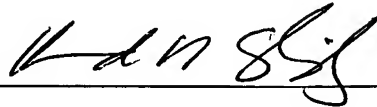
The rejection of claim 3 should be withdrawn because any combination of Cooper and Aoki '444 fails to disclose, teach, or suggest all the features of claim 1 and its dependent claim 3. Claim 3 depends from and contains all the features of claim 1. Cooper does not teach a resilient member and a sensor plate that are two distinct and separate elements. Aoki '444 does not cure this deficiency. Thus, any combination of Cooper and Aoki '444 does not teach or suggest all the features of claim 1 and its dependent claim 3, and the rejection should be withdrawn. Reconsideration and withdrawal of the rejection of claim 3 are respectfully requested.

VI. Conclusion

Applicant believes that the claims are allowable over the prior art, and withdrawal of the rejections is respectfully requested.

Respectfully submitted,

Date 1/22/2008

By 

FOLEY & LARDNER LLP  
Customer Number: 22428  
Telephone: (202) 672-5582  
Facsimile: (202) 672-5399

Howard N. Shipley  
Attorney for Applicant  
Registration No. 39,370

**CLAIMS APPENDIX**

1. A device for measuring a weight of a seat, including a weight of an occupant sitting on the seat, the device comprising:

a resilient member supported by at least one support point; and

a load sensor supported by a sensor plate and a sensor support and in communication with the resilient member and positioned to receive the weight of the seat, wherein the sensor support is formed on an underside of the sensor plate;

wherein the device is configured so that the weight of the seat is applied between the at least one support point and the sensor support.

2. The device of claim 1, wherein the resilient member is a single acting part.

3. The device of claim 1, wherein the resilient member has two acting parts.

4. The device of claim 1, further comprising a pin bracket adapted to be in communication with the seat and the resilient member.

5. The device of claim 4, wherein the pin bracket is rotatably supported by a base pin.

6. The device of claim 5, wherein the pin bracket transmits the seat weight to a bracket pin.

7. A device for measuring seat weight including a weight of an occupant sitting on a seat, the device comprising:

a base having two side plates;

an arm rotatably supported by and interdisposed between the side plates of the base via a base pin;

a pin bracket in communication with the arm via a bracket pin and further adapted to be in communication with the seat, wherein the bracket pin is partially located between the two side plates of the base; and

a load sensor in communication with the arm; and

wherein the pin bracket is located between the base pin and the load sensor.

8. The device of claim 7, wherein the arm comprises a single acting part.
9. The device of claim 7, wherein the arm comprises two acting parts.
10. The device of claim 7, wherein the pin bracket is rotatably supported by the base pin.
11. The device of claim 10, wherein the pin bracket transmits the seat weight to the bracket pin.
12. The device of claim 7, wherein the arm comprises two arm side plates.
13. The device of claim 12, further comprising a spring leaf interdisposed between the two arm side plates.

**EVIDENCE APPENDIX**

-NONE-



**RELATED PROCEEDINGS APPENDIX**

-NONE-